



**BILLING CODE 3510-22-P**

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**RIN: 0648-XE882**

**Stock Status Determination for Atlantic Dusky Sharks**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice.

**SUMMARY:** This action serves as a notice that NMFS, on behalf of the Secretary of Commerce (Secretary), has determined that Atlantic dusky sharks (*Carcharhinus obscurus*) are still overfished and subject to overfishing.

**FOR FURTHER INFORMATION CONTACT:** Tobey Curtis by phone at 978-281-9273 or Karyl Brewster-Geisz by phone at 301-427-8503.

**SUPPLEMENTARY INFORMATION:**

**Background**

Atlantic dusky sharks are managed under the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) and its amendments. Dusky sharks have been a prohibited species since 2000 and may not be landed or retained in any fisheries. However, multiple commercial and recreational fisheries sometimes interact with the species as bycatch during the course of normal operations. The 2016 assessment was an update to the 2011 stock assessment for dusky sharks. Thus, no new methodology was introduced, though all model inputs were updated with more recent data (i.e. effort, and 2010-2015 for all the indices of

relative abundance, which included observer and survey data).

Dusky sharks were first assessed in 2006, and all model results indicated that the stock had been heavily exploited, with depletion estimates between 62 and 80 percent from virgin biomass, and a rebuilding timeframe of 100 to 400 years. Dusky sharks were again assessed in 2011 through the Southeast Data, Assessment, and Review (SEDAR) process in SEDAR 21. The SEDAR 21 dusky shark assessment indicated that the species was overfished (spawning stock biomass  $[SSB]_{2009}/SSB_{MSY}=0.41-0.50$ ) and was experiencing overfishing ( $F_{2009}/F_{MSY}=1.39-4.35$ ).

All documents and information regarding the 2010 SEDAR 21 benchmark assessment and 2016 update can be found on the SEDAR webpage at <http://sedarweb.org/sedar-21>.

### **2016 Dusky Shark Stock Assessment Update Results**

The 2016 dusky shark stock assessment update used an age-structured catch-free production model since the species' prohibited status made the use of catch as an input largely impractical.

In the 2011 SEDAR 21 assessment, the reviewers determined that there were five scenarios analyzed in the assessment that were plausible. Thus, in the 2016 update, the five scenarios reflective of plausible states of nature were analyzed and projections for each scenario were conducted. The five scenarios were: (1) the base scenario; (2) a high natural mortality scenario; (3) a U-shaped natural mortality curve allowing senescence; (4) a high productivity scenario; and (5) a low productivity scenario. Under all scenarios, the 2016 update found the stock is still overfished (spawning stock fecundity  $[SSF]_{2015}/SSF_{MSST} = 0.44 - 0.69$ ). Under all scenarios, the 2016 update found the stock was also still subject to overfishing ( $F_{2015}/F_{MSY} = 1.08$

- 2.92).

The assessment was peer reviewed by two reviewers. Overall, the peer reviewers determined the stock assessment to be based on the best scientific information available. Based on these results, NMFS has determined that the status of dusky sharks is overfished and overfishing is occurring.

Dated: September 30, 2016

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